Estimates of Annual Business Inventories, 1928-41

By Wendell D. Hance

In recent years there has been widespread recognition of the major importance of inventory changes in the ebb and flow of business activity. Analysis of the role of inventories accordingly calls for comprehensive historical data on business inventories.[1]

It is the purpose of this article to present estimates of the aggregate values of inventories held in the various industries classified by major industrial groups at year-end, 1928–41. Measurement and analysis of inventories, which these data help to make possible, are an important part of the entire program of the Bureau of Foreign and Domestic Commerce to provide a commodity or object-of-expenditure break-down of national income totals, in terms of consumers' goods, capital formation, and government expenditures.[2]

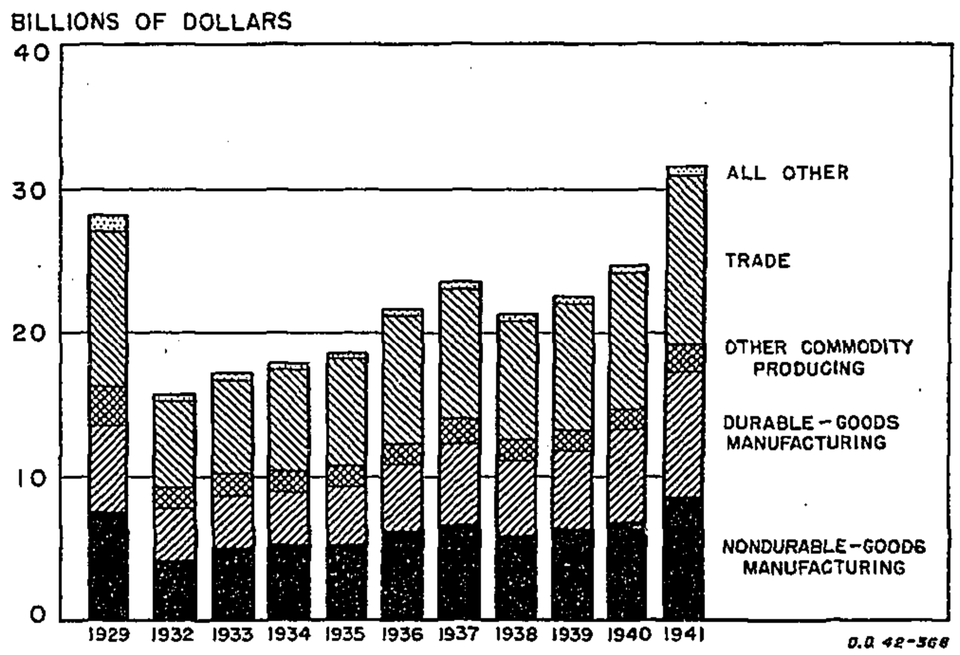
The inventory component of capital formation is defined as the value in current prices of the net change (plus or minus) in the physical volume of inventories. The present data are the basic raw material for estimating capital formation in the form of inventories, but they are not identical with it. This is because an increase in the total value of inventories between two dates may be due not only to added physical volumes, but also to increased prices of goods on hand, and the present data include such changes due to the price element.

The data presented here of total inventories in terms of accounting values will be valuable as a supplement to the current monthly inventory statistics published by the Bureau of Foreign and Domestic Commerce.[3]

The inventory estimates shown in table 1 cover all corporations filing Federal Income Tax returns except banks and insurance companies, which report no inventories, and stock and bond brokers, whose inventories are assumed to be securities rather than commodities. The corporate data have been supplemented where possible with estimates of noncorporate inventories. These cover all noncorporate business except agriculture, finance, real estate and related activities, public utilities, and oil and gas wells. Except for agriculture, the inventory holdings of these omitted businesses are negligible compared to the total of all inventories.

Corresponding sales data, for corporations only, are available up to 1939 from the same source which provides the basic data on corporate inventories.[4] For most industrial groups the sales series can be conveniently extrapolated to cover 1940 and 1941. Sales data are presented in table 2 as a supplement to the corporate inventory data of table 1. Inventory figures, supplemented by sales data in the case of corporations, will be of interest for study of relationships of inventory investment to sales.

Chart 5.—Business Inventories, End of Year, by Major Industrial Divisions



Sources: U. S. Department of Commerce and U. S. Treasury Department (Bureau of Internal Revenue).

The broad annual inventory aggregates, including the noncorporate as well as the corporate, presented here afford benchmarks for use in making estimates of inventories at shorter intervals, which would be more useful in studying the fluctuations of sales and production. These broad inventory measurements afford, moreover, to the business man and the economist additional insight into the role of this volatile investment factor in business fluctuations, cyclical or otherwise.

[1] Current aspects of business inventories have been discussed in a recent article: Frederic C. Murphy and Louis J. Paradiso, "Business Inventories in the War Period." *Survey of Current Business, June 1942*, pp. 6–12.

[2] Outlined by Shaw, William H., "The Gross Flow of Finished Commodities and New Construction," *Survey of Current Business*, April 1942, pp. 13–20. Also see Milton Gilbert and R. B. Bangs, "Preliminary Estimates of Gross National Product, 1929–41," *Survey of Current Business*, May 1942, pp. 9–13.

[3] Monthly indexes in the *Survey of Current Business*, also in the *Industry Survey*, a multilithed release of the Bureau of Foreign and Domestic Commerce. Estimates of the total values of manufacturing, wholesale, and retail inventories, monthly, beginning with 1939, have appeared in the *Industry Survey* (see also *Survey of Current Business*, February 1942, p. 33, and June 1942, p. 7. The totals presented here differ from corresponding year-end totals of the *Industry Survey* because the former cover more industries and are derived from different basic data. See footnotes to table 1. and the descriptive notes on sources and methods obtainable on request from the Bureau of Foreign and Domestic Commerce.

[4] U. S. Bureau of Internal Revenue, *Statistics of Income*.

The Composition of Business Inventories

The composition of year-end inventories by kind of business according to broad groupings of industries is shown for the years 1928–41 in chart 5. The detailed data are shown in table 1.

There is on the whole a high degree of co-variation between the aggregate values of inventories held by the various industries in the course of upswings and downswings of business. However, it will be noted that the inventories of the "other commodity producing" and the "all other" groups show certain peculiarities of variation. In the former group, public utility inventories are dominated by railroads, hence the failure of public utility inventories to rise to and surpass the high level of 1928–29. The inventories of mining corporations show a tendency, traceable to metal mining companies, to move inversely to general business, and this tendency is reflected also in the relatively restricted fluctuation of inventories for this group. In the "all other" group, finance and real estate corporation inventories show a decline from 1929 to 1931 to one-fourth of the earlier level, with gradual further decline thereafter. These inventories are mostly held by real estate and holding companies. In the case of corporations in service industries, on the other hand, inventories fluctuate more or less parallel to distributive inventories.

Inventory Changes Important in Capital Formation

It is apparent from chart 5 that values of inventories undergo substantial expansion and contraction in the course of economic cycles. Change in physical quantities of inventories, however, is the factor which directly operates to accentuate fluctuations of production (and indirectly of total activity). Since the acquisition or valuation prices of inventory goods fluctuate considerably in the usual course of a cycle, the changes of physical volumes are somewhat less violent than the movements indicated in chart 5.

Inasmuch as net business expenditure on inventories can occur solely because of a rise in the prices of goods held, without any change in the quantities held, changes in aggregate inventory values do not bear a close or definite relationship to the value of goods going into inventories or withdrawn from them in a given period. But if those inventory value changes, which are due solely to price fluctuations of unchanging quantities held, are allowed for, then inventory values so adjusted for price changes really represent the value of additions to or withdrawals from stocks. The flow, as thus estimated, of goods into inventories can instructively be compared to business purchases of new plant and equipment. This comparison shows the relationship between the two chief types of business capital formation. The behavior of these two series of data is shown in the following table. For convenience of reference the total of the annual flow of finished commodities is shown also, together with the year-to-year changes in the three series.

Net Flow of Goods To or From Business Inventories, New Private Business Plant and Equipment, and Total Gross Flow of Finished Commodities and New Construction

[Billions of dollars]

Year	Net flow to or from business inventories [1]	New private business plant and equipment [2]	Gross flow of finished commodities and new construction [3]	Year-to-year change in: Net flow to or from inventories	Year-to-year change in: New private business plant and equipment	Year-to-year change in: Gross flow of finished commodities and new construction
1929	+1.6	12.0	67.0			
1930	−0.3	9.8	58.7	−1.9	−2.2	−8.3
1931	−2.0	6.5	48.0	−1.7	−3.3	−10.7
1932	−2.3	3.6	34.7	−0.3	−2.9	−13.3
1933	−0.7	3.0	32.2	+1.6	−0.6	−2.5
1934	−0.1	4.1	39.5	+0.6	+1.1	+7.3
1935	+0.2	5.2	43.5	+0.1	+1.1	+4.0
1936	+2.2	6.7	50.8	+2.0	+1.5	+7.3
1937	+1.1	8.3	55.3	−1.1	+1.6	+4.5
1938	−1.3	6.0	49.9	−2.2	−2.3	−5.4
1939	+0.8	7.1	54.5	+2.1	+1.1	+4.6
1940	+1.8	8.7	60.7	+1.0	+1.6	+6.2
1941	+3.6	11.4	81.1	+1.8	+2.7	+20.4

[1] "Net change in business inventories" component of private gross capital formation in Gilbert and Bangs, *op.cit.*, p. 12, table 2. Figures are rough preliminary estimates, useful only for deriving a general impression of comparative magnitudes and the direction of change.

[2] Sum of "construction" and "producers' durable equipment" components of private gross capital formation (*ibid.*), less private residential construction. (Shaw, *op.cit.*, p. 17, table 2.)

[3] Shaw, *op.cit.*, p. 17, table 2.

Source: U. S. Department of Commerce.

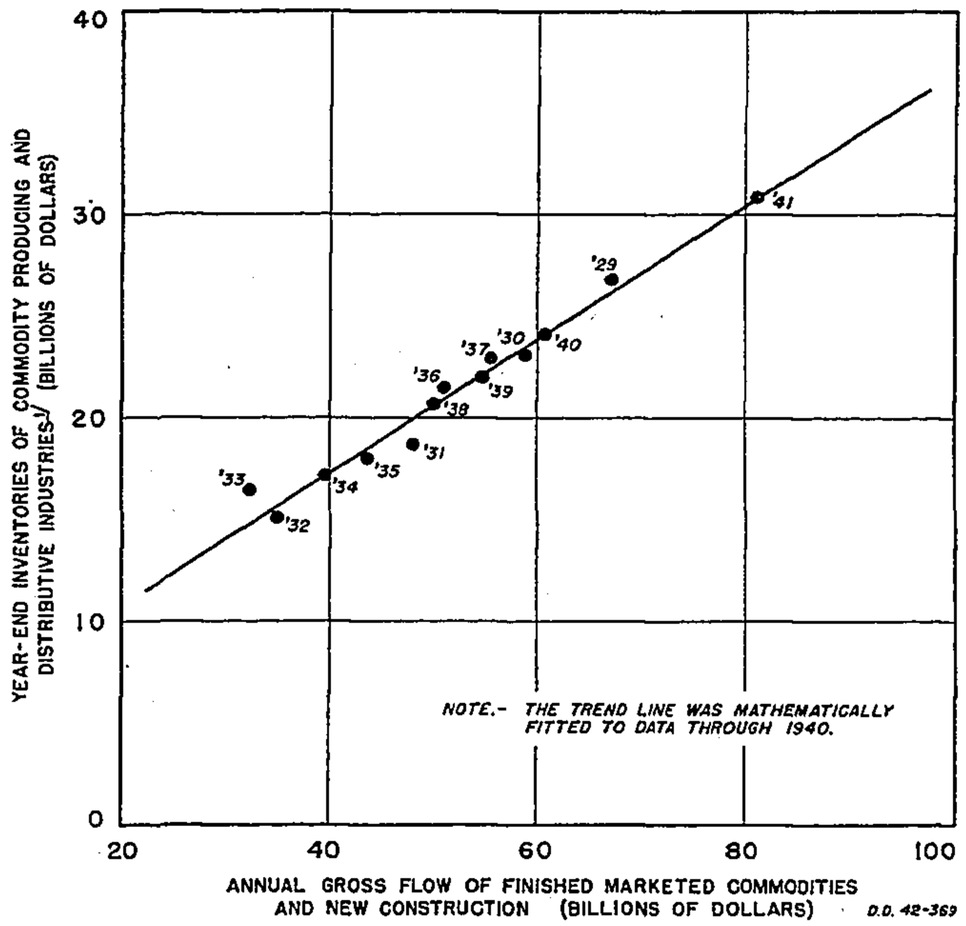
The true importance of inventory expansion and contraction is revealed most emphatically by comparison of the year-to-year changes of these two elements of business capital formation. Investment in new business plant and equipment in 1932 was more than $8 billion lower than that of 1929. Over the same period the net in-flow of goods to inventories changed to out-flow. Whereas in 1929 business men added perhaps $1½ billions to inventory, in 1932 they liquidated inventory by more than $2 billions. Thus the influence of inventory policy on production changed to an extent roughly measured by the $3½ to $4 billion difference. In the recession of 1937–38, net flow from inventories was again a strikingly important factor, representing a change from in-flow to out-flow about as large in value as the decline in the production of new plant and equipment.

Inventories and Commodity Flow Related

During the period under review, the value of business inventories as a whole has been interrelated with the annual total gross flow of finished commodities and new construction from business to final users. It is well known, of course, that special factors frequently intervene to affect importantly the size of inventories. Anticipation of increased costs of production or of prospective demand in excess of capacity production, widespread business confidence, all may operate at times so that business inventory policy becomes less closely determined by current commodity flow.

The relation between value of inventories and the gross flow of finished commodities and new construction is shown in chart 6, which serves as the underlying explanation of the heights of bars in chart.[5] It is evident that inventories fluctuate closely in line with the gross commodity flow in the course of major variations in business activity.

Chart 6.—Relationship Between Year-End Inventories of Commodity Producing and Distributive Industries and Annual Gross Flow of Finished Marketed Commodities and New Construction



[1] Data do not include agricultural industries.

Sources: U. S. Department of Commerce and U. S. Treasury Department (Bureau of Internal Revenue).

Since both inventories and the gross flow of commodities are in value terms, chart 6 indicates roughly the relationship between the physical volumes of inventories and of gross flow at varying levels of business activity. The comparison does, however, exaggerate somewhat the current value of physical changes of inventories in relation to changes in the gross flow.

For convenience in describing the relationship of inventories to gross flow, a least squares straight line has been fitted to the points for 1929 through 1940 in chart 6. The equation of the line is $Y=0.329\ X+\$4.682$ billion. The percentage change in the value of inventories at intermediate levels of gross flow has averaged around four-fifths as high as the percentage change in the gross flow. The comparative percentage change of inventories relative to gross commodity flow is lower at lower levels of gross flow and higher at higher levels.

[5] The data on gross flow appeared in the article in the April *Survey of Current Business* cited earlier. They exclude farm consumption of nonmanufactured foods and fuels which do not pass through the market system. The inventory data used are those for industries contributing predominantly to the gross flow, except agriculture. They exclude not only the estimates for agricultural corporations, shown in table 1, but also inventories in the service and the finance and real estate industries.

Inventory Changes Augment Business Cycles

This effect is illustrated in the following table.

Year	Flow of commodities to final users [1]	Inventories at end of year [1]	Production in year [1]
1	1,000	500	1,000
2	1,400	600	1,500
3	1,400	600	1,400
4	1,000	500	900
5	1,000	500	1,000

[1] Figures represent numbers of physical units.

The flow of goods to final users, once an expansion is under way, does not continue to increase indefinitely. If the flow levels off sufficiently quickly, the reduction of the flow of goods into inventories can, as in the example, bring about an actual decline in production. During the second year in our illustration production rises by 400 units to provide the enlarged flow of goods to final users, and by 100 more to meet the demand for increased stocks. But in the third year the gross flow, for whatever reason, ceases to rise. Accordingly, the demand for larger stocks disappears, so production is called forth only at the rate necessary to maintain the gross flow unchanged. Thus production declines simply because the gross flow does not continue to increase.

The process does not end there. Once the gross flow declines, inventories become too large, and the goods sold out of stocks take the place of equivalent production. Therefore, production declines more than does the gross flow to final users. In fact, it falls below the flow, so that if the latter is stabilized, production must eventually increase in order to maintain that level.

The gross flow figures in the illustration appear to be independently determined. However, it is obvious that changes in the rate of production necessarily involve changes in the earnings of the factors of production, and hence in consumer expenditure. Moreover such changes are likely to cause business to alter its rate of purchasing of new plant and equipment, with additional effects on consumer income and expenditure. Thus a variation in the gross flow inevitably leads to further change. Inventory changes, then, accentuate and sometimes set in motion such cumulative expansions and contractions of income and expenditure.

In certain phases of business cycles, business inventories are merely a secondary causal factor set in operation by other initiating factors. In others, usually short, independent changes of inventory policy are responsible for the fluctuations in business activity.

In the foregoing hypothetical example, inventories operated passively, the effects of their variation being part of a mechanism set in operation by the nature of the variation of commodity flow. This pattern of change is well exemplified by the wavelet of production in late 1938 and early 1939. Production, inventories, and sales to final users were all rising. But the last was not rising fast enough. Production declined when in-

ventories became ample, although final sales continued to rise.

A more important illustration of the passive inventory effect, though obscured by other tendencies, is found in the expansion and downturn of 1936–37. Production mounted rapidly in 1936, and large corresponding increases of inventories were called forth simply to support the increased volume of business. This process of course was accompanied by other influences intensifying the initial expansion, among them speculative building up of inventories. The flow of goods from business to final users did not continue to rise at a rapid rate, perhaps in part because of the sharp decrease in the Federal deficit, in part because of a normal tendency for consumption to rise less than income. Therefore inventories did not continue to require expansion at the same rate. Hence orders and then production turned down while the flow of goods to final users continued to rise. A return to extreme conservatism of inventory policy, reflected in the drastic reversal of the flow of goods into inventories, intensified the recession of 1937–38.

The usual inventory-type of cycle operates through active variation of inventories independently of current or immediately prospective sales. Sharp changes of inventory policy are brought about by events which, for example, offer the threat of higher costs or of inadequate future supply. The outstanding instance of the former was the mid-1933 boom. The onset of the war late in 1939 brought an inventory boom initiated by both stimuli. Production expanded rapidly only to fall back early in 1940. Part of the great expansion of 1941 was promoted by the desire for inventory accumulation in anticipation of later shortages.

The foregoing effects of inventory policies suggest the many situations where business policies which are advantageous for any one enterprise are detrimental to business as a whole. Thus a *general* clamping down on the volume of inventories as a normal cyclical expansion grows old may insure a downturn; in the course of a recession already under way it accentuates the rate and severity of the contraction. Correspondingly, loosening up of hand-to-mouth buying as business revives paves the way for later accentuation of trouble through a return to tighter control of inventories.

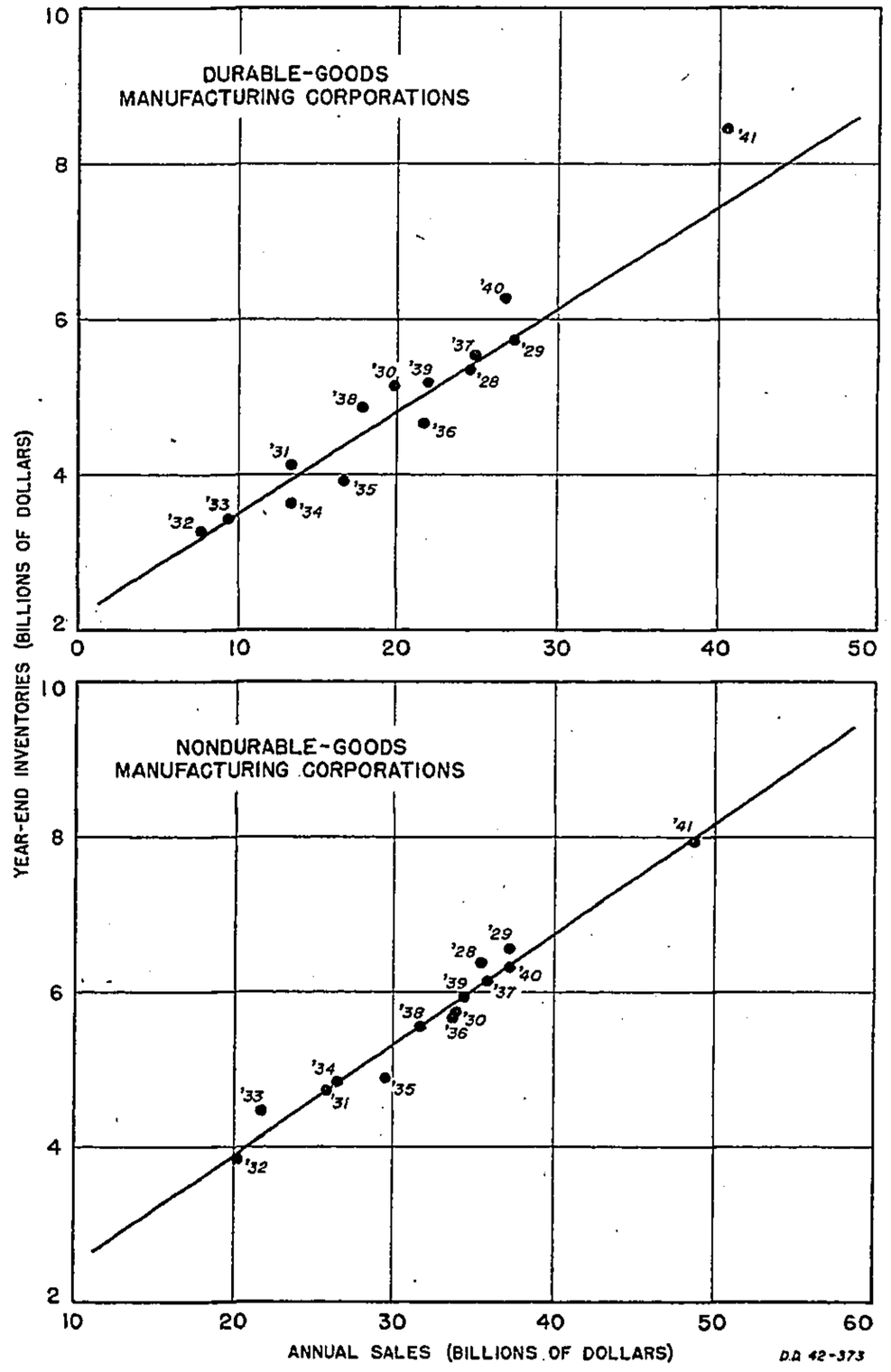
Inventories in Relation to Sales for Manufacturing Corporations

The average inventory experience of particular businesses is indicated by the comparison for a group of enterprises of total inventories with their aggregate sales.[7] Such a comparison is undertaken here for manufacturing corporations grouped into two major divisions, durable and nondurable goods production.

[7] The quotient of aggregate inventories by aggregate sales for a group of companies is equivalent to the weighted arithmetic mean of the individual ratios of inventories to sales, with sales as weights.

Evidence on the behavior of inventories can be secured by studying directly the relationship between the level of inventories and the level of sales. The scatter diagrams of chart 7 show the values of aggregate year-end inventories and aggregate annual sales, 1928 to 1941, for each of the two groups of corporations. It is apparent that the points fall closely about a straight line sloping upward through the area of scatter. In order to measure the relationship of inventories to sales, least squares straight lines have been fitted to the points of the diagrams for 1928 through 1939.

Chart 7.—Relationship Between Year-End Inventories and Annual Sales of Manufacturing Corporations [1]



[1] The trend lines were mathematically fitted to data through 1939. Data for 1928–33 in this chart differ from those in Table 2; data in chart were adjusted for comparability to subsequent years.

Sources: U. S. Department of Commerce and U. S. Treasury Department (Bureau of Internal Revenue).

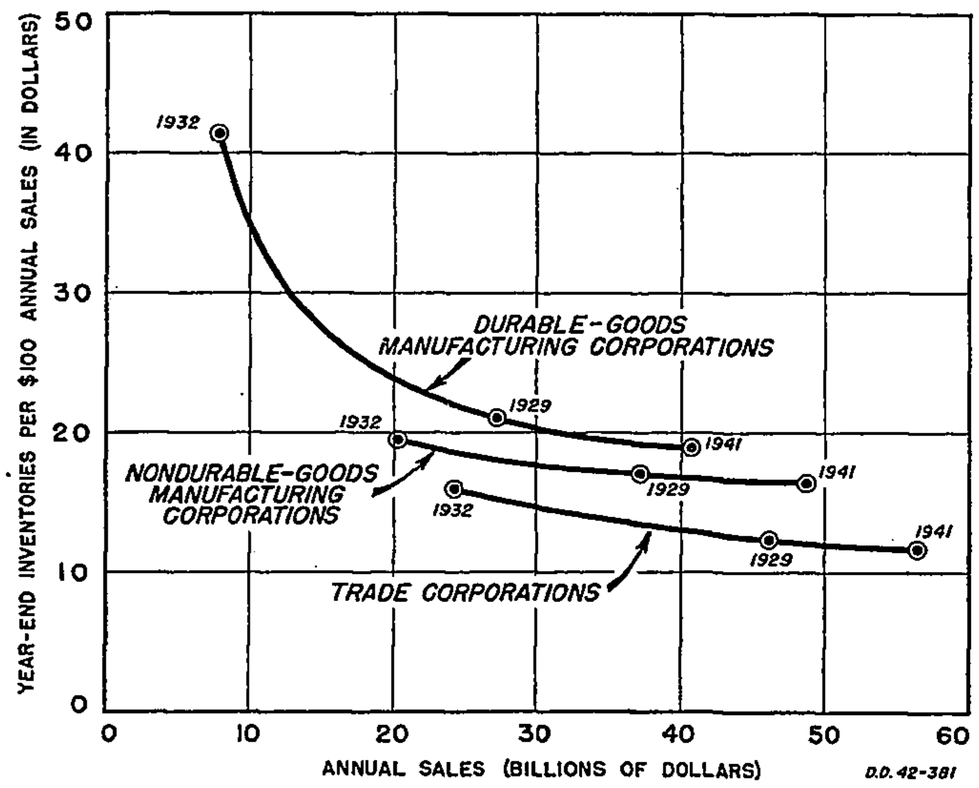
The line of relationship between nondurable goods inventories and sales shows a little steeper slope than the line for durables.[8] That is, inventory value rises on the average somewhat more for a given increase in

[8] The equation of the line for durables is $Y=0.131\ X+\$2.182$ billion; for nondurables $Y=0.144X+\$1.021$ billion. The coefficients of X show the relative steepness of the lines.

sales of corporations in nondurable goods manufacturing. However, the difference is not great.

Inventory turn-over is measured by ratios of inventories to sales. The higher the ratio the slower the stock turn-over. From 1928 to 1941, inventory-sales ratios fluctuated substantially, especially those for corporations manufacturing durable goods. The several industry groups of durable goods manufacturing corporations all display the same wide fluctuations in their average ratios, characterized by extreme rises when sales reach the bottom. In comparison the average ratios for the several nondurable industries, although there is significant variation in behavior among

Chart 8.—Relationship of Inventory-Sales Ratios to Annual Sales of Corporations [1]



[1] Inventory-sales ratios for manufacturing corporations are based upon values read from lines of relationship of inventories to sales data for 1928–39 in Chart 7; ratios for trade corporations are based upon a similar trend line determined from inventory and sales data for 1931–39.

Sources: U. S. Department of Commerce and U. S. Treasury Department (Bureau of Internal Revenue).

their average ratios, show as a group a pattern of change quite different and much narrower in range of fluctuation. The ratios for distributive corporations closely resemble the nondurable manufacturing ratios in their movement.

The general tendency of inventory values per $100 of annual sales for various levels of total sales of corporations in each group is shown by the curves of chart 8. These curves have been derived from the lines of relationship in chart 7. The height of the curve (on the vertical scale) for a given value of total sales (on the horizontal scale) is the quotient of total inventories (as indicated by the height of the line in chart 7 for that sales total) divided by that same sales figure. In the interest of simplicity the actual average annual ratios have not been shown in chart 7. For comparison a curve for all trade corporations (wholesale, retail, and not allocable) has been derived from a line of relationship determined from data for the period 1931–39. The high and low values of sales for the period of fit employed in chart 8, also estimated 1941 sales, are indicated on the curves by the dated points.[9]

Some business men regard a relatively constant ratio of inventories to sales as the normal relation notwithstanding large variations in the level of sales. Others expect a rising level of business to be accompanied by a higher rate of turn-over [1] of inventories with attendant economies. Both of these patterns are illustrated in chart 8. The former appears in the nearly horizontal tendency shown by the curve for nondurable goods manufacturing corporations. The latter is evident in the curve for durable manufacturing, especially in the great rise of the turn-over rate from that which characterizes very low levels of sales, indicated by the rapid fall of the curve as sales increase to moderate levels.

One may note what happens as sales rise from 60 percent of the 1929 level up to the 1929 level. The average ratio for nondurable goods corporations declines by one-tenth as sales rise over that range, while that of durable goods corporations falls by two-tenths.

Needless to say, these representations of general tendencies in inventory-sales relationships hide significant differences between industries. The aggregates even for considerably narrower classifications conceal still wider variations of behavior on the part of individual firms. The extent and significance of such variations in individual company experience would need consideration in appraising the usefulness of average ratios as guides or standards of reference for the study and control of the operations of particular enterprises. The broad average relationships presented here are intended to do no more than suggest further and more detailed study of inventory data and to designate some of the major landmarks in the field of inventory-sales relationships.

Sources and Methods Used.

An outline of the sources and methods used in deriving the estimates of year-end business inventories, 1928–1941, may be obtained on request from the National Income Unit, Bureau of Foreign and Domestic Commerce.

[9] The 1929 high is shown for sales of trade corporations.

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Table 1.—Business Inventories, End of Year, by Industrial Divisions and Industries, 1928–1941

[In millions of dollars]

Industrial division or industry	1928	1929	1930	1931	1932	1933	1934 [1]	1934 [2]	1935	1936	1937	1938 [3]	1939 [3]	1940 [p 3]	1941 [p 3]
Total	26,967	28,185	23,999	19,433	15,669	17,080	*17,924*	17,913	18,650	21,684	23,584	21,323	22,556	24,367	31,674
Corporate	20,915	22,001	18,932	15,390	12,525	13,796	*14,606*	14,595	15,040	17,364	18,920	17,034	17,999		
Noncorporate	6,052	6,184	5,067	4,043	3,144	3,284	3,318	3,318	3,610	4,320	4,664	4,289	4,557		
Manufacturing and trade, total	23,813	24,442	21,108	17,033	13,748	15,136	*15,936*	16,056	16,873	19,838	21,533	19,408	20,678	22,354	29,091
Other, total	3,154	3,743	2,891	2,400	1,921	1,944	*1,988*	1,857	1,777	1,846	2,051	1,915	1,878	2,013	2,583
Manufacturing industries, total	12,964	13,595	11,967	9,738	7,831	8,682	*9,288*	8,992	9,360	10,984	12,381	11,073	11,814	12,861	17,382
Nondurable-goods manufacturing	7,288	7,497	6,513	5,364	4,344	5,048	*5,444*	5,218	5,282	6,108	6,622	5,984	6,408	6,427	8,701
Corporate	6,685	6,877	6,021	4,942	4,028	4,670	*5,052*	4,826	4,886	5,683	6,138	5,562	5,942	6,236	8,052
Foods and kindred products	1,902	1,959	1,202	918	785	954	*1,075*	1,028	983	1,183	1,212	1,121	1,190	1,154	1,731
Liquors and beverages			70	58	53	113	*170*	155	185	265	306	289	296	349	439
Tobacco products			444	410	356	351	*403*	402	427	476	513	549	571	590	675
Textile mill products	1,877	1,815	1,063	781	627	870	*861*	870	892	979	996	811	894	968	1,227
Apparel and products made from fabrics			294	222	162	226	*216*	216	242	285	290	254	302	[a]	[a]
Leather and leather products	443	408	360	288	210	257	*252*	239	270	292	300	251	270	[a]	[a]
Rubber products	297	285	232	164	132	161	*215*	198	187	223	262	207	224	260	299
Paper and allied products	311	325	312	258	206	228	*233*	228	247	278	330	278	298	333	374
Printing, publishing, and allied industries	207	227	203	186	146	147	*158*	157	159	174	206	172	184	[a]	[a]
Chemicals and allied products	1,648	1,858	672	538	482	513	*604*	606	605	711	811	747	805	910	1,114
Petroleum and coal products			1,169	1,119	869	850	*865*	727	689	817	912	883	908	958	1,062
Noncorporate	603	620	492	422	316	378	392	392	396	425	484	422	466	491	649
Durable-goods manufacturing	5,676	6,098	5,454	4,374	3,487	3,634	*3,844*	3,774	4,078	4,876	5,759	5,089	5,406	6,434	8,681
Corporate	5,439	5,843	5,227	4,193	3,341	3,488	*3,698*	3,628	3,923	4,669	5,534	4,876	5,187	6,191	8,369
Stone, clay, and glass products	319	335	334	274	225	217	*218*	222	237	262	302	271	283	297	377
Forest products	717	712	644	458	341	360	*346*	342	357	395	446	466	490	510	608
Automobiles, parts and equipment	3,846	4,230	496	360	285	319	*355*	303	377	495	596	446	523	608	813
Metals and products, except automobiles			3,272	2,722	2,185	2,288	*2,476*	2,455	2,629	3,151	3,768	3,316	3,586	4,457	6,264
Iron and steel and products												1,468	1,527	1,771	1,797
Nonferrous metals and products												358	368	404	541
Electric machinery and equipment												384	409	522	867
Machinery, except transportation equipment and electrical												951	1,021	1,197	1,717
Shipbuilding and transportation equipment, except automobiles												155	261	563	1,342
Manufacturing not elsewhere classified	557	566	481	379	305	304	*303*	306	323	366	422	228	241	[a]	[a]
Other manufacturing												149	64	[a]	[a]
Manufacturing not allocable												213	219	243	312
Noncorporate	237	255	227	181	146	146	146	146	155	207	225				
Trade, total	10,849	10,847	9,141	7,295	5,917	6,454	*6,648*	7,064	7,513	8,854	9,152	8,335	8,864	9,493	11,709
Corporate, total	6,049	5,991	5,157	4,137	3,450	3,903	*4,080*	4,496	4,678	5,432	5,480	4,938	5,260		
Corporate trade not allocable												534	505	531	668
Wholesale trade:															
Corporate												2,047	2,203	3,118	3,930
Noncorporate	999	951	804	562	451	453	465	465	497	644	757	671	765		
Retail trade:															
Corporate, including automobile repair service												2,357	2,552	5,844	7,111
Noncorporate, including eating and drinking places	3,801	3,905	3,180	2,596	2,016	2,098	2,103	2,103	2,338	2,778	2,915	2,726	2,839		
Other commodity producing, total	2,230	2,622	2,104	1,856	1,532	1,553	*1,582*	1,446	1,377	1,439	1,656	1,460	1,427	1,529	1,998
Mining and quarrying:															
Corporate	523	702	450	481	394	416	*443*	407	348	312	376	382	323	321	340
Noncorporate [4]	11	14	9	10	8	9	9	9	9	8	13	10	11	12	13
Construction:															
Corporate	257	300	240	172	129	113	*117*	110	108	131	138	121	126	284	461
Noncorporate	193	226	181	130	97	85	88	88	87	106	111	98	102		
Public utilities (corporate)	1,050	1,175	1,022	897	749	779	*736*	636	631	699	831	698	723	764	986
Agriculture (corporate)	196	205	202	166	155	151	*189*	196	194	183	187	151	142	148	198
All other, total	924	1,121	787	544	389	391	*406*	411	400	407	395	455	451	484	585
Service:															
Corporate, including eating and drinking places	186	200	253	210	152	148	*176*	173	165	178	183	219	236	424	516
Noncorporate, including automobile repair service	208	213	174	142	110	115	115	115	128	152	159	149	155		
Finance, real estate, and related activities (corporate) [5]	513	699	354	185	118	126	*114*	118	103	71	51	57	45	45	52
Nature of business not given (corporate)	17	9	6	7	9	2	*1*	5	4	6	2	30	15	15	17

[a] Included in the totals but not available separately.
[p] Preliminary.
[1] Classifications for corporations are comparable to those for 1928–33. Prior to 1934, groups of affiliated companies had the privilege of filing consolidated Federal income tax returns; this privilege was withdrawn in 1934 except for steam and electric railroad companies.
[2] Classifications for corporations are comparable to those for 1935–41 except as indicated in footnote 3.
[3] Classifications for corporations, 1938–41, are not strictly comparable to prior years, due to 1938 change in code of industrial classification used by the Bureau of Internal Revenue.
[4] Excludes noncorporate oil and gas wells and oil and gas field service operations.
[5] Excludes stock and bond brokers and dealers. No inventories are reported by banks and insurance companies.

Sources: U. S. Department of Commerce and U. S. Bureau of Internal Revenue.

Table 2.—Sales Of Corporations By Industries, 1928–1941

[In millions of dollars]

Industry	1928	1929	1930	1931	1932	1933	1934 [1]	1934 [2]	1935	1936	1937	1938 [3]	1939 [3]	1940 [p 3]	1941 [p 3]
Manufacturing, total	69,864	75,550	60,251	44,842	31,447	35,482	46,426	42,563	50,327	51,539	60,625	49,966	56,164	64,549	91,312
Nondurable goods manufacturing, total	37,554	39,360	34,566	27,442	21,634	23,034	28,117	26,417	29,534	29,909	35,820	31,556	34,353	36,826	48,437
Foods and kindred products	13,955	14,474	11,416	8,885	6,763	7,022	8,862	8,117	9,117	10,174	10,653	9,686	9,935	10,377	13,171
Liquors and beverages			361	284	246	570	1,095	1,040	1,300	1,627	1,778	1,586	1,662	1,882	2,452
Tobacco products			1,148	1,164	1,023	924	1,059	1,046	1,088	1,198	1,280	1,272	1,309	1,398	1,566
Textile mill products	7,675	8,077	4,157	3,362	2,419	3,025	3,312	3,359	3,866	4,393	4,417	3,118	3,760	4,008	6,083
Apparel and products made from fabrics			2,140	1,831	1,354	1,497	1,767	1,756	1,889	2,218	2,184	2,043	2,280	[a]	[a]
Leather and leather products	1,686	1,708	1,363	1,089	825	971	1,098	1,018	1,147	1,264	1,313	1,112	1,221	[a]	[a]
Rubber products	1,350	1,384	1,059	785	606	690	868	712	773	947	1,079	839	1,062	1,164	1,650
Paper and allied products	1,665	1,726	1,510	1,217	954	1,121	1,297	1,280	1,453	1,677	1,838	1,488	1,731	1,984	2,606
Printing, publishing and allied industries [4]	2,589	2,777	2,562	2,213	1,727	1,594	1,860	1,804	1,963	2,165	2,363	2,137	2,207	[a]	[a]
Chemicals and allied products	3,696	4,003	4,864	2,752	2,141	2,224	2,729	2,708	3,096	3,758	4,063	3,584	4,197	4,772	6,527
Petroleum and coal products	4,938	5,211	3,986	3,860	3,576	3,396	4,170	3,577	3,842	4,246	4,852	4,691	4,989	5,109	5,957
Durable goods manufacturing, total	32,310	36,190	25,685	17,400	9,813	12,448	18,309	16,146	20,793	21,630	24,805	18,410	21,812	27,723	42,876
Stone, clay and glass products	1,604	1,612	1,375	1,009	644	691	850	810	978	1,331	1,484	1,184	1,463	1,658	2,353
Forest products	2,731	2,684	1,910	1,285	794	931	1,094	1,051	1,268	1,684	1,864	1,728	2,092	2,435	3,544
Automobiles, parts and equipment	5,254	6,074	3,806	2,684	1,380	2,101	3,741	2,846	4,047	4,697	4,632	3,486	3,553	4,633	6,108
Metals and products, except automobiles	20,381	23,476	16,694	11,019	6,050	7,745	11,450	10,276	13,112	12,324	15,044	9,832	13,266	16,798	26,072
Iron and steel and products												4,211	5,918	7,427	11,463
Nonferrous metals and products												1,175	1,548	1,880	2,767
Electrical machinery and equipment												1,542	1,826	2,372	3,758
Machinery, except transportation equipment and electrical												2,905	3,372	4,343	6,859
Shipbuilding and transportation equipment, except automobiles												580	602	776	1,225
Manufacturing not elsewhere classified	2,340	2,344	1,900	1,403	945	980	1,174	1,163	1,388	1,594	1,781				
Other manufacturing												992	1,116	[a]	[a]
Manufacturing not allocable												607	321	[a]	[a]
Trade, total	41,809	42,190	36,084	29,504	22,102	23,192	28,109	31,709	36,121	41,593	43,470	37,056	40,581	44,941	55,998
Trade, not allocable												3,858	3,419	3,843	4,991
Wholesale trade												17,073	19,000	21,356	27,741
Retail trade, including automobile repair service												16,125	18,162	19,742	23,266
Other commodity producing, total	8,606	22,219	19,938	16,734	13,261	12,947	14,651	14,434	15,374	17,573	19,137	16,710	17,940	[b]	[b]
Mining and quarrying [4]	3,349	3,767	2,752	2,090	1,543	1,850	2,424	2,353	2,461	2,898	3,371	2,594	2,731	3,146	4,042
Construction [4]	2,775	2,803	2,789	2,035	1,290	962	1,143	1,109	1,334	1,793	2,208	1,926	2,208	2,358	3,175
Public utilities [4]	1,720	14,834	13,816	12,158	10,091	9,769	10,548	10,475	11,032	12,203	12,826	11,619	12,423	13,181	15,231
Agriculture [4]	762	815	581	451	337	366	536	497	547	679	732	571	578	[b]	[b]
Service, including eating and drinking places [4]	1,682	3,799	3,787	3,394	2,653	2,495	3,102	3,164	3,463	4,329	4,543	3,876	4,026	4,376	5,157

[a] Included in the totals but not available separately.
[b] Not available.
[p] Preliminary.
[1] See table 1, note 1.
[2] Classifications for corporations are comparable to those for 1935–41 except as indicated in footnote 3.
[3] See table 1, note 3.
[4] Sales include gross receipts from operations.

Sources: For 1940–41, U. S. Department of Commerce; for 1928–39, U. S. Bureau of Internal Revenue.